

CLAIMS

Claim 1. (Previously Presented) A fuel composition comprising:

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the fuel; and,

(b) a friction modifying amount of a reaction product of at least one natural or synthetic oil and at least one alkanolamine; and,

(c) at least one fuel detergent.

Claim 2. (Original) The fuel composition of Claim 1 wherein the hydrocarbon fuel is selected from the group consisting of gasoline, diesel, kerosene and jet fuels.

Claim 3. (Original) The fuel composition of Claim 1 wherein the alcohol is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

Claim 4. (Original) The fuel composition of Claim 1 wherein the alcohol is present in the hydrocarbon fuel in an amount of less than about 25 percent by volume.

Claim 5. (Previously Presented) The fuel composition of Claim 1 wherein the reaction product is a natural oil and an alkanolamine, the natural oil being a glycerol C₆-C₂₂ fatty acid ester.

Claim 6. (Previously Presented) The fuel composition of Claim 5 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

Claim 7. (Original) The fuel composition of Claim 1 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

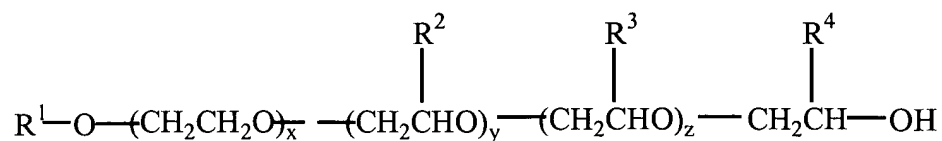
Claim 8. (Original) The fuel composition of Claim 1 wherein the weight ratio of natural or synthetic oil to alkanolamine is from about 0.2 to about 3.

Claim 9. (Original) The fuel composition of Claim 1 wherein the friction modifying amount of the reaction product of component (b) present in the fuel composition is from about 0.1 to about 1000 PTB.

Claim 10. (Original) The fuel composition of Claim 1 further comprising a carrier.

Claim 11. (Original) The fuel composition of Claim 10 wherein the carrier is a liquid carrier selected from the group consisting of substituted polyethers, cyclic polyethers aromatic polyethers and polyether alcohols.

Claim 12. (Previously Presented) The fuel composition of Claim 11 wherein the polyether alcohol possesses the general formula



wherein x is an integer from 0 to about 5, y is an integer from 1 to about 49, z is an integer from 1 to about 49 and the sum of x + y + z is equal to 3 to about 50; R¹ is an alkyl, an alicyclic or an alkylalicyclic radical having from about 4 to about 30 carbon atoms or an alkylaryl where the alkyl group is from about 4 to about 30 carbon atoms; R² and R³ each is different and is an alkyl group of from 1 to 4 carbon atoms and each oxyalkylene radical can be any combination of repeating oxyalkylene units to form random or block copolymers; and R⁴ is the same as R² and R³.

Claim 13. (Original) The fuel composition of Claim 12 wherein the polyether alcohol is a mixture of 2-(4-n-nonyl (poly(propylene oxide-co-butylene oxide) phenylether)-1-n-propyl alcohol and 2-(4-n-nonyl (poly(propylene oxide-co-butylene oxide) phenylether)-1-n-butyl alcohol.

Claim 14. (Previously Presented) The fuel composition of Claim 10 wherein the amount of the carrier present in the fuel composition is from about 10 to about 1000 PTB.

Claim 15. (Canceled)

Claim 16. (Previously Presented) The fuel composition of Claim 1 wherein the fuel detergent is selected from the group consisting of Mannich base detergents, polyetheramines,

polyolefin-amines, polyolefin-polyamines, polyolefin-phenol-polyamines, polyolefin succinimides and mixtures thereof.

Claim 17. (Previously Presented) A method of operating an internal combustion engine which comprises operating the engine employing as a fuel therefor a fuel composition which comprises:

(a) a major amount of an internal combustion engine hydrocarbon fuel containing at least one alcohol, it being provided that methyl tertiary-butyl ether is substantially absent from the fuel; and,

(b) a friction modifying amount of a reaction product of at least one natural or synthetic oil and an alkanolamine; and,

(c) at least one fuel detergent.

Claim 18. (Original) The method of Claim 17 wherein the hydrocarbon fuel is selected from the group consisting of gasoline, diesel, kerosene and jet fuels.

Claim 19. (Original) The method of Claim 17 wherein the alcohol is selected from the group consisting of methanol, ethanol, propanol, isopropanol, butanol, t-butanol, pentanol, hexanol, heptanol, octanol, nonanol, decanol, undecanol, dodecanol, tridecanol, tetradecanol, pentadecanol, phenol and mixtures thereof.

Claim 20. (Original) The method of Claim 17 wherein the alcohol is added to the hydrocarbon fuel in an amount of less than about 25 percent by volume.

Claim 21. (Previously Presented) The method of Claim 17 wherein the reaction product is a natural oil and an alkanolamine, the natural oil being a glycerol C₆-C₂₂ fatty acid ester.

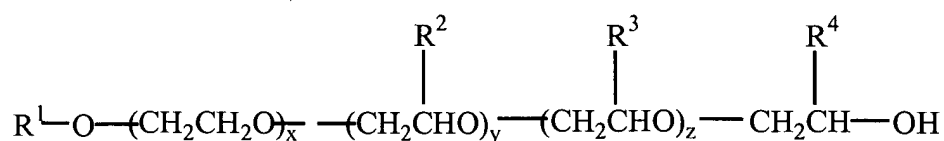
Claim 22. (Previously Presented) The method of Claim 21 wherein the natural oil is selected from the group consisting of beef tallow oil, lard oil, palm oil, castor oil, cottonseed oil, corn oil, peanut oil, soybean oil, sunflower oil, olive oil, whale oil, menhaden oil, sardine oil, coconut oil, palm kernel oil, babassu oil, rape oil and soya oil.

Claim 23. (Original) The method of Claim 17 wherein the alkanolamine is selected from the group consisting of monoethanolamine, diethanolamine, propanolamine, isopropanolamine, dipropanolamine, di-isopropanolamine, butanolamines, aminoethylaminoethanol and mixtures thereof.

Claim 24. (Original) The method of Claim 17 wherein the weight ratio of natural or synthetic oil to alkanolamine is from about 0.2 to about 3.

Claim 25. (Original) The method of Claim 17 wherein the fuel composition further comprises a carrier.

Claim 26. (Previously Presented) The method of Claim 25 wherein the carrier is a polyether alcohol of the general formula



wherein x is an integer from 0 to about 5, y is an integer from 1 to about 49, z is an integer from 1 to about 49 and the sum of $x + y + z$ is equal to 3 to about 50; R^1 is an alkyl, an alicyclic or an alkylalicyclic radical having from about 4 to about 30 carbon atoms or an alkylaryl where the alkyl group is from about 4 to about 30 carbon atoms; R^2 and R^3 each is different and is an alkyl group of from 1 to 4 carbon atoms and each oxyalkylene radical can be any combination of repeating oxyalkylene units to form random or block copolymers; and R^4 is the same as R^2 and R^3 .

Claim 27. (Original) The method of Claim 25 wherein the amount of the carrier present in the fuel composition is from about 10 to about 1000 PTB.

Claim 28. (Canceled)

Claim 29. (Previously Presented) The method of Claim 17 wherein the fuel detergent is selected from the group consisting of Mannich base detergents, polyetheramines, polyolefin-amines, polyolefin-polyamines, polyolefin-phenol-polyamines, polyolefin succinimides and mixtures thereof.

Claims 30-37. (Canceled)

Claims 38-63. (Not Entered)